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In re Applicant:

Joseph KANNER et al

Serial No.:

10/661,606

Filed:

September 15, 2003

For:

INCREASING BIOAVAILABILITY OF

CAROTENOIDS

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Group Art Unit: 1655

Attorney

Docket: 25629

Examiner: GITOMER, RALPH J

Mail Stop Amendment Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

## **INFORMATION DISCLOSURE STATEMENT**

Sir:

Enclosed is a PTO Form 1449 which lists citations which may be material to the patentability and examination of the above identified application. Also enclosed are copies of the references cited. These are submitted in compliance with the duty of disclosure defined in 37 CFR 1.56. The Examiner is requested to make these citations of official record in this application.

This Information Disclosure Statement is being filed subsequent to an Office Action being mailed and a late fee of \$180 is due. Please charge my Deposit Account 50-1407 for this fee, as well as any additional fees due.

This Information Disclosure Statement under 37 CFR 1.56 is not to be construed as a representation that a search has been made, that additional matter which is material to the examination of this application does not exist, or that any or more of these citations constitutes prior art.

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Respectfully submitted,

Martin D. Moynihan

Registration No. 40,338

Dated: January 8, 2006

PTO/SB/08a (08-03)

Approved for use through 07/31/2006. OMB 0651-0031 U.S.Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under His Pa	Substitute for form 1449A/PTO  INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (use as many sheets as necessary)				Complete if Known			
							10/661,606 September 15, 2003	
					First Named Inventor	Jose	Joseph KANNER et al	
					Art Unit 165		5	
					Examiner Name	GIT	OMER, RALPH J	
Sheet		1	of	2	Attorney Docket Number	2562	29	
			U.S.	PATENT	DOCUMENTS		<del></del>	
Examiner Initials*	Cite No. 1	Document Number	Publication Date MM-DD-YYYY		Name of Patentee or Applicant of Cited Documen	t	Pages, Columns, Lines, Relevant Passages or R Figures Appear	
		Number-Kind Code <sup>2 (if known)</sup>			<u> </u>		riguies Appear	
	1	US-5,789,647	04-4-1998 06-29-1999 08-10-1999 04-17-2001		Heidlas et al.			
	2	US-5,916,791			Hirschberg et al. Hirschberg et al. Hirschberg et al. Schlipalius et al.			
	3	US-5,935,808						
	4	US-6,218,599						
	_ 5			02				
	_6	US-2004/166199	08-26-2	004	Kanner et al.			
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Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Documents  Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY		e of Patentee or of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T 6
	7	JP 51-142020	06-6-1976	Sane			П
	8	RU 1568310	04-30-1995	Litvinenko et al.			
	9	PCT WO 2005/026739	03-24-2005	Kanner et al.			
	10	PCT WO 02/094982	11-28-2002	Kanner et al.			
	11	JP 59-091155	05-25-1984	Yoshikura et al.			П
	12 JP 62-115067		05-28-1987	Inagaki et al.			
	13	FR 2818992	05-5-2002	Bidau et al.			Г
	14	PCT WO 2005/017142	02-24-2005	Weiss et al.			$oxed{\Box}$
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This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. this collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of commerce, P.O. Box 1450, Alexandria, VA 22313-1450, DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

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erwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Complete if Known Substitute for form 1449A/PTO Application Number 10/661,606 Filing Date September 15, 2003 INFORMATION DISCLOSURE First Named Inventor Joseph KANNER et STATEMENT BY APPLICANT

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		(use as many sheets as necessary)	Group Art Unit 1655		OMER, RALPH J				
Sheet	2			Examiner Name GITC Attorney Docket Number 2562					
Silect	+2	OTHER PRIOR ART – NON			23029				
Examiner	Cite	Include name of the author (in CAPITAL LE			of the				
Initials	No.1	item (book, magazine, journal, serial sympos		$T^2$					
<del></del>		publisher, city an							
	15	Aakermann et al. "Enzymatic Hydrolysis of Esters of Alkali Labile Carotenols", Biocatalysis and Biotransformation, 13: 157-163, 1996.							
	16								
	10	Breithaupt et al. "Carotenol Fatty Aci			2002				
	17	Enzymes?", Comparative Biochemist Zorn et al. "Enzymatic Hydrolysis of			2002.				
	' '	(Tagetes Erecta L.) and Red Paprika (			inaces				
		and Pleurotus Sapidus Extracellular Lipase", Enzyme and Microbial Technology, 32:							
	ļ	623-628, 2003. Abstract, P.624, § Joining l-h & r-h Col., § Joining P.625, 626.							
	18	Liu et al. "Enzymatic Hydrolysis, Extraction, and Quantitation of Retinol and Major							
		Carotenoids in Mature Human Milk", Journal of Nutritional Biochemistry, 9(3): 178-							
		183, 1998. Abstract, Fig. 1, § Joining P.180, 181.							
	19	Santamaria et al. "Selective Enzyme-Mediated Extraction of Capsaicinoids and							
		Carotenoids From Chili Guajillo Puya (Capsicum Annuum L.) Using Ethanol as							
•	İ	Solvent", Journal of Agricultural and Food Chemistry, 48(7): 3063-3067, 2000.							
		Abstract, § Joining 1-h & r-h Cols. on P.3064.							
	20	Breithaupt "Enzymatic Hydrolysis of Carotenoid Fatty Acid Esters of Red Pepper							
	}	(Capsicum Annuum L.) by A Lipase From Candida Rugosa", Verl. d. Zeitschrift f.							
		Naturforschung, 55(11-12): 971-975,							
	21	Perez-Galvez et al. "Incorporation of Carotenoids From Paprika Oleoresin Into							
		Human Chylomicrons", Br. J. Nutr., 89(6): 787-793, 2003. Abstract.							
	22	Kanner et al. "Carotenoids Extraction From Orange Peel by Treatment With							
·		Enzymes and D-Limonene", Int. Fruchtsaft Union, 18: 219-225, 1984.							
	23	Lauridsen et al. "Hydrolysis of Tocopheryl and Retinyl Esters by Porcine Carboxyl  Ester Hydrolysis Is Affected by Their Carboxylate Moiety and Rile Acids" Journal of							
		Ester Hydrolase Is Affected by Their Carboxylate Moiety and Bile Acids", Journal of							
	24	Nutritional Biochemistry, 12: 219-224, 2001.  Lindstrom et al. "Concerted Action of Human Carboxyl Ester Lipase and Pancreatic							
	24	Lipase During Lipid Digestion In Vitro: Importance of the Physicochemical State of							
		the Substrate", Biochim. Biophys. Acta, 959(2): 178-184, 1988. Abstract.							
	25	Breithaupt et al. "Carotenoid Esters in Vegetables and Fruits: A Screening With							
	23	Emphasis on β-Cryptoxanthin Esters", J. Agric. Food Chem., 49: 2064-2070, 2001.							
	26	Orlich et al. "Candida Rugosa Lipase Reactions in Nonionic W/O-Microemulsion							
		With A Technical Surfactant", Enzyn							
		Abstract.							
	27	Martin et al. "Yellow Pigments of Dioscorea Bulbifera", Journal of Agriculture and							
	l	Food Chemistry, 22(2): 335-337, 1974. Abstract, P.335, r-h Col., 1st §, P.337, r-h							
		Col., 3rd §.							
	28	Salo-Väänänen et al. "Simultaneous HPLC Analysis of Fat-Soluble Vitamins in							
		Selected Animal Products After Small-Scale Extraction", Food Chemistry, 71(4):							
		535-543, 2000. Abstract, P.535, l-h Col., Lines 1-4, P.536, l-h Col., last §, P.537, r-h							
		Col., 2nd §, P.538, l-h Col., Lines 8-1	10, Fig.2.						
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Signature				Considered					

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